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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,639	05/12/2005	Alan George Rock	P2481US	1659
8968 7590 08/06/2007 DRINKER BIDDLE & REATH LLP ATTN: PATENT DOCKET DEPT. 191 N. WACKER DRIVE, SUITE 3700 CHICAGO, IL 60606			EXAMINER COURSON, TANIA C	
			ART UNIT 2859	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/534,639	Applicant(s) ROCK ET AL.	
	Examiner Tania C. Courson	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9,11,13,15,18-21,26,28 and 30-43 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-9,11,13,15,18-21,26,28 and 30-43 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 12MAY05 & 22FEB07 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The previous final rejection as stated in the last Office action (mailed May 7, 2007) is withdrawn based on discussion from Interview on July 11, 2007 with Applicant's Attorney, Mr. John Buckzynski. The final rejection is being reissued in this paper.

Claim Objections

2. Claim 1 is objected to because of the following informalities: it is unclear how one motion sensor could detect motion in six degrees of freedom, when it appears that one would need six motion sensors in order to detect motion in six degrees of freedom. For examination purposes, the examiner has assumed only one motion detector, although the references (US 6,366,831 B1 and GB 2045938 A) utilized in the rejection do have at least six motion sensors. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-9, 11, 13, 18-21, 26-28 and 30-35 and 37-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Raab (US 6,366,831 B1).

Raab discloses in the Figures 1-27, a measuring device comprising:

With respect to claims 1-4, 31-35 and 37-43:

- a) a housing (10), power supply means (column 8, lines 44-45), one or more motion sensors (80) adapted to detect motion in six degrees of freedom (column 8, lines 45-53), a processor (16) adapted to provide a measure of the relative spatial separation (column 13, lines 13-36), a user actuated trigger (150) for identifying at least a first location and a display (18) for visually presenting information on a measured relative spatial separation (Fig. 1) said processor is further adapted to determine at least one angle of a second location with a reference to a line or plane incorporating said first location (column 13, lines 13-36) for presentation by said display (18) and to determine an error correction in relation to motion detected by said one or more motion sensors (column 14, lines 2-7);
- b) wherein said processor is adapted to determine said at least one angle with respect to one or both of vertical and horizontal planes (column 13, lines 13-36);
- c) wherein said processor is adapted to determine whether said first and second locations are level with respect to either of said vertical or horizontal planes (column 13, lines 13-36);
- d) wherein said processor is adapted to determine, in addition to said at least one angle, a linear distance separating said first and second locations (column 13, lines 13-36);

- e) further comprising a measuring point (56) provided on said housing and having a defined spatial relationship with respect to said one or more motion sensors (Fig. 1), said measuring point being visually distinguishable on said housing and user alignable with a user selected spatial location (Fig.1);
- f) wherein said measuring point is adapted to be substantially stationary when aligned by a user with a selected spatial location (Fig. 1);
- g) wherein the processor is adapted to determine an error correction when said measuring point is aligned with a selected spatial location and is substantially stationary, in relation to motion detected by said one or more motion sensors (column 14, lines 2-7);
- h) wherein the processor is in communication with a memory in which is stored calibration data and the processor is adapted to update calibration data stored in said memory at a second or subsequent location (column 13, lines 13-36);
- i) wherein said processor is adapted to adjust for movement of the one or more motion sensors as a result of uncontrolled hand movements of the user when updating calibration data stored in said memory (column 14, lines 2-7);
- j) further including a timer, in communication with the processor, for monitoring the time duration of a measurement wherein the processor is adapted to determine the measure of relative spatial separation to a resolution dependent upon the time duration of the measurement (column 3, lines 10-14);

- k) the processor is adapted to determine from information received from the motion sensors when the measuring device is stationary and to generate an error correction (column 14, lines 2-7);
- l) wherein the processor has access to threshold data identifying lower limits of measurable spatial movement representative of small, uncontrolled hand movements of a user (column 14, lines 2-7);
- m) further comprising a deceleration device for reducing high deceleration forces (134);
- n) wherein the processor is adapted to supply real time data on the measured relative spatial separation (column 13, lines 13-36);
- o) wherein the processor additionally includes a data store in which motion data is stored and said processor is adapted to update said stored motion data in dependence on calculated error corrections or updated calibration data and to recalculate said measured spatial separation in dependence on the updated motion data (column 14, lines 2-7);
- p) further including a non-contact distance meter for measuring a distance to a position remote from the measuring device, the position being at least one of said first and second locations (column 8, lines 26-30).

With respect to claim 5:

- a) a housing (10), power supply means (column 8, lines 44-45), a processor (16) and one or more motion sensors (80) adapted to provide a measure of the

relative spatial separation of at least first and second locations (column 13, lines 13-36), a user actuated trigger (150) for identifying at least said first location and a display (18) for visually presenting information on a measured relative spatial separation (Fig.1) wherein said processor is further adapted to determine at least one angle of said second location with reference to a line or plane incorporating said first location and a linear distance for presentation by said display (column 13, lines 13-36) and to determine an error correction in relation to motion detected by said one or more motion sensors (column 14, lines 2-7).

With respect to claims 6-9, 11, 13, 18-21, 26, 28 and 30:

- a) a housing (10), power supply means (column 8, lines 44-45), a processor (16) and one or more motion sensors (80) adapted to provide a measure of the relative spatial separation of at least first and second locations (column 13, lines 13-36), a user actuated trigger (150) for identifying at least said first location and a display (18) for visually presenting information on a measured relative spatial separation (Fig. 1) said measuring device further including a measuring point (56) provided on said housing having a defined spatial relationship with respect to said one or more motion sensors (Fig. 1), said measuring point being provided for identification to said processor (18), in association with said user actuated trigger, at least one of said first and second locations (column 13, lines 13-36) and said processor being adapted to

- determine an error correction in relation to motion detected by said one or more motion sensors (column 14, lines 2-7);
- b) wherein said measuring point is visually distinguishable on said housing and user alignable with a user selected spatial location (Fig. 1);
 - c) wherein said measuring point is adapted to be substantially stationary when aligned by a user with a selected spatial location (Fig. 1);
 - d) wherein processor is adapted to determine an error correction when said measuring point is aligned with a selected spatial location and is substantially stationary, in relation to motion detected by said one or more motion sensors (column 14, lines 2-7);
 - e) wherein the processor is in communication with a volatile memory in which is stored calibration data and the processor is adapted to update calibration data stored in said volatile memory at a second or subsequent location (column 13, lines 13-36);
 - f) wherein said processor is adapted for movement of the one or more motion sensors as a result of uncontrolled hand movements of the user when updating calibration data stored in said volatile memory (column 14, lines 2-7);
 - g) further including a timer, in communication with the processor for monitoring the time duration of a measurement wherein the processor is adapted to determine the measure of relative spatial separation to a resolution dependent upon the time duration of the measurement (column 3, lines 10-14);

- h) wherein the processor is adapted to determine from information received from the motion sensors when the measuring device is stationary and to generate an error correction (column 14, lines 2-7);
- i) wherein the processor has access to threshold data identifying lower limits of measurable spatial movement representative of small, uncontrolled hand movements of a user (column 14, lines 2-7);
- j) further comprising a deceleration device for reducing high deceleration forces (134);
- k) wherein the processor is adapted to supply real time data on the measured relative spatial separation (column 13, lines 13-36);
- l) wherein the processor additionally includes a data store in which motion data is stored and said processor is adapted to update said stored motion data in dependence on calculated error corrections or updated calibration data and to recalculate said measured spatial separation in dependence on the updated motion data (column 14, lines 2-7);
- m) further including a non-contact distance meter for measuring a distance to a position remote from the measuring device, the position being at least one of said first and second locations (column 8, lines 26-30).

With respect to the preamble of the claims 1 and 5-6: the preamble of the claim has not been given any patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the

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preamble is a self – contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 15 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raab in view of Davis (GB 2045938 A).

Raab discloses a measuring device, as stated above in paragraph 4.

Raab does not disclose wherein one or more motion sensors or a plurality of motion sensors comprise at least three accelerometers and three angular rate sensors.

Davis teaches a measuring device that consists of wherein said one or more motion sensors or a plurality of motion sensors comprise at least three accelerometers and three angular rate sensors (page 2, lines 74-80). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the measuring device of Raab, so as to replace Raab's motion sensors with the accelerometer and angular rate sensor motion sensors as taught by Davis, because both are well known alternate types of shape motion sensors which will perform the same function, if one is replaced with the other, of detecting movement.

Response to Arguments

7. Applicant's arguments filed on July 9, 2007 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The prior art cited on PTO-892 and not mentioned above disclose a measuring device:

Raab et al. (US 7,050,930 B2)

Raab et al. (US 6,965,843 B2)

Raab (US 6,535,794 B1)

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tania C. Courson whose telephone number is (571) 272-2239. The examiner can normally be reached on Monday, Wednesday and Thursday from 9AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez, can be reached on (571) 272-2245.

The fax number for this Organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TCC
August 1, 2007


G. BRADLEY BENNETT
PRIMARY EXAMINER
A V 2859